

(19)  **Canadian
Intellectual Property
Office**

An Agency of
Industry Canada

**Office de la Propriété
Intellectuelle
du Canada**

Un organisme
d'Industrie Canada

(11) **CA 2 386 281** (13) **A1**

(40) 12.04.2001

(43) 12.04.2001

(12)

(21) 2 386 281

(22) 05.10.2000

(51) Int. Cl.⁷: **C08F 8/32, C10M 159/16,
C10L 1/22**

(85) 02.04.2002

(86) PCT/EP00/09746

(87) WO01/025294

(30) 199 48 111.3 DE 06.10.1999

(71) **BASF AKTIENGESELLSCHAFT,
D-67056, LUDWIGSHAFEN, XX (DE).**

**LANGE, ARNO (DE).
RATH, HANS PETER (DE).
POSSELT, DIETMAR (DE).
TROTSCH-SCHALLER IRENE (DE).
WALTER, MARC (DE).**

(72)

(74) **BORDEN LADNER GERVAIS LLP**

(54) **PROCEDE DE PREPARATION DE PRODUITS D'ADDITION DE MANNICH CONTENANT DU
POLYISOBUTENPHENOL**

(54) **METHOD FOR PRODUCING MANNICH ADDUCTS THAT CONTAIN POLYISOBUTYLENE PHENOL**

(57)

The invention relates to a method for producing Mannich adducts that contain polyisobutylene phenol by:
a) alkylating a phenol with highly-reactive polyisobutylene at a temperature lower than approximately 50 °C and in the presence of an alkylation catalyst; b) reacting the reaction product from a) with formaldehyde, an oligomer or with a polymer of the formaldehyde and with at least one amine, which has at least one secondary amino function and does not have any primary amino function; or c) reacting the reaction product from a) with at least one adduct consisting of at least one amine, which has at least one secondary or primary amino function, and with formaldehyde, an oligomer of the formaldehyde, a polymer of the formaldehyde or with a formaldehyde equivalent. The invention also relates to Mannich adducts that can be obtained by using this method, to the use of the Mannich adducts as detergent additives in fuel compositions and lubricant compositions, and to additive concentrates, fuel compositions and lubricant compositions containing these Mannich adducts.



Office de la Propriété
Intellectuelle
du Canada

Un organisme
d'Industrie Canada

Canadian
Intellectual Property
Office

An agency of
Industry Canada

CA 2386281 A1 2001/04/12

(21) **2 386 281**

(12) **DEMANDE DE BREVET CANADIEN
CANADIAN PATENT APPLICATION**

(13) **A1**

(86) Date de dépôt PCT/PCT Filing Date: 2000/10/05
(87) Date publication PCT/PCT Publication Date: 2001/04/12
(85) Entrée phase nationale/National Entry: 2002/04/02
(86) N° demande PCT/PCT Application No.: EP 2000/009746
(87) N° publication PCT/PCT Publication No.: 2001/025294
(30) Priorité/Priority: 1999/10/06 (199 48 111.3) DE

(51) Cl.Int.⁷/Int.Cl.⁷ C08F 8/32, C10L 1/22, C10M 159/16

(71) Demandeur/Applicant:
BASF AKTIENGESELLSCHAFT, DE

(72) Inventeurs/Inventors:
LANGE, ARNO, DE;
RATH, HANS PETER, DE;
POSSELT, DIETMAR, DE;
TROTSCH-SCHALLER IRENE, DE;
WALTER, MARC, DE

(74) Agent: BORDEN LADNER GERVAIS LLP

(54) Titre : PROCEDE DE PREPARATION DE PRODUITS D'ADDITION DE MANNICH CONTENANT DU
POLYISOBUTENPHENOL

(54) Title: METHOD FOR PRODUCING MANNICH ADDUCTS THAT CONTAIN POLYISOBUTYLENE PHENOL

(57) Abrégé/Abstract:

The invention relates to a method for producing Mannich adducts that contain polyisobutylene phenol by: a) alkylating a phenol with highly-reactive polyisobutylene at a temperature lower than approximately 50 °C and in the presence of an alkylation catalyst; b) reacting the reaction product from a) with formaldehyde, an oligomer or with a polymer of the formaldehyde and with at least one amine, which has at least one secondary amino function and does not have any primary amino function; or c) reacting the reaction product from a) with at least one adduct consisting of at least one amine, which has at least one secondary or primary amino function, and with formaldehyde, an oligomer of the formaldehyde, a polymer of the formaldehyde or with a formaldehyde equivalent. The invention also relates to Mannich adducts that can be obtained by using this method, to the use of the Mannich adducts as detergent additives in fuel compositions and lubricant compositions, and to additive concentrates, fuel compositions and lubricant compositions containing these Mannich adducts.

Canada

<http://opic.gc.ca> • Ottawa-Hull K1A 0C9 • <http://cipo.gc.ca>

OPIC • CIPQ 191

OPIC



CIPO